



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002FL4B

Title: Application of a Multi-Scale, Multi-Process Hydrologic Model to the C-111 Basin in South Florida

Project Type: Research

Focus Categories: Hydrology, Models, Water Supply

Keywords: Hydrologic models, ground water hydrology, watershed management

Start Date: 03/01/2002

End Date: 02/28/2003

Federal Funds Requested: \$23,622

Non-Federal Matching Funds Requested: \$47,780

Congressional District: 5

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Abstract

The natural hydrology of south Florida has been extensively altered through channelization to provide adequate water for urban growth and agriculture, and to provide flood protection to the area. Currently, water resource management in south Florida is governed by a number of federal, state, and county agencies. These agencies have developed or adopted hydrologic models to address a diverse set of needs. These range from large-scale models used to estimate impacts of alternative water management practices across all of south Florida, to field-scale models used to predict local impacts such as flooding or agricultural production. However, these different models are not well integrated. The primary objective of this proposed research is to apply a multiple process, multiple scale hydrologic model to the C-111 basin in south Florida. We will investigate how hydrologic processes within the C-111 basin in south Florida such as ground water flow, river/canal flow, overland flow, infiltration, evapotranspiration, etc., are manifested across a range of spatial and temporal scales. We will focus on understanding how agricultural, urban, and/or natural ecosystems in south Florida impact, and are in turn impacted by, hydrologic processes at a variety of scales. Additional objectives are to test various methods for upscaling input parameters and predictions from detailed local models, and to use this hydrologic model to investigate sensitivities of hydrologic processes to spatial and temporal variability of hydrologic parameters at different scales.